

## CLAIMS

- 1     1. A transmitter, comprising:  
2         a multi-signal generator for simultaneously providing a plurality of signals within  
3     a portion of a selected frequency band and having a center frequency and relative fre-  
4     quency spacing of said simultaneous plurality of signals, wherein said multi-signal gen-  
5     erator is a variable multi-signal generator for selectively adjusting said center frequency  
6     to cause said plurality of signals to cover a differing of the selected frequency band;  
7         a modulator connected to said multi-signal generator for selectively and simulta-  
8     neously modulating said plurality of signals;  
9         a control unit for selectively controlling said multi-signal generator center fre-  
10    quency;  
11         a decoder adapted to prevent a transmission of said plurality of signals in response  
12    to receipt of an emergency transmission.
- 1     2. The transmitter of claim 1, wherein said multi-signal generator further includes a  
2     wave memory for reproducing a selected waveform output signal providing said plurality  
3     of signals.
- 1     3. The transmitter of claim 2, wherein said wave memory output signal comprises a plu-  
2     rality of signals corresponding to a different portion of said selected band.
- 1     4. The transmitter of claim 3, wherein said control unit provides prestored waveforms  
2     selectively transferred to said wave memory to provide said plurality of signals on a cor-  
3     responding portion of said selected band.
- 1     5. The transmitter of claim 2, further including a waveform converter connected to re-  
2     ceive said reproduced selected waveform output signal and provide a converted output  
3     signal.

1     6. The transmitter of claim 5, further including an audio source comprising one of an  
2     audio memory for providing a prestored audio signal selected by said control unit, and a  
3     microphone, said audio source being selectively connected to said converter to therein  
4     amplitude modulate the waveform output signal.

1     7. The transmitter of claim 2, further including a programmable signal generator pro-  
2     viding a programmable output signal and a mixer receiving said programmable output  
3     signal and said converted output signal and providing a mixer output therefrom, wherein  
4     said programmable output signal is selectively varied to provide a plurality of signals at  
5     different portions of a selected band.

1     8. The transmitter of claim 7, wherein said programmable signal generator is controlled  
2     by said control unit to selectively provide different output signals, which when received  
3     by said mixer, provides said plurality of signals corresponding to substantially all of said  
4     selected frequency band.

1     9. The transmitter of claim 8 further including a frequency modulator connected to said  
2     programmable signal generator for frequency modulating the output signal thereof ac-  
3     cording to an audio signal.

1     10. The transmitter of claim 9 further including an audio source comprising one of an  
2     audio memory for providing a prestored audio signal selected by said control unit, and a  
3     microphone, said audio source being selectively connected to said frequency modulator  
4     to modulate programmable signal generator output signal.

1     11. The transmitter of claim 10, further including an audio source comprising one of an  
2     audio memory for providing a prestored audio signal selected by said control unit, and a  
3     microphone, said audio source being selectively connected to said frequency modulator.

1 12. The transmitter of claim 7, further including a power amplifier selectively receiving  
2 from one of said mixer output signal and said converted signal, and providing a trans-  
3 mitter output signal.

1 13. The transmittal of claim 1 wherein said emergency transmission comprises an  
2 Emergency Alert System transmission.

1 14. The transmittal of claim 1 wherein said emergency transmission comprises a Radio  
2 Data Standard transmission.

1 15. The transmitter of claim 1 wherein said decoder is further adapted to activate a radio  
2 in response to receipt of said emergency transmission.

1 16. A dual-mode transmitter, comprising:

2 a first signal generator for simultaneously providing a plurality of carrier signals  
3 within a frequency band and having a relative frequency spacing, and including an am-  
4 plitude modulator of said plurality of said plurality of signals according to a  
5 modulation signal;

6 a second signal generator for selectively providing a selectable frequency signal,  
7 and including a frequency modulator of said selectable frequency according to a modu-  
8 lation signal;

9 a mixer receiving the output signals of said first and second signal generators,  
10 and providing an output signal;

11 a power amplifier for selectively receiving said signals corresponding to said  
12 plurality of signals from said first signal generator and said mixer output signal, provid-  
13 ing a signal to an antenna according to said selectively received signal;

14 a control means for selectably enabling said first signal amplitude modulator in a  
15 first mode, and said second signal generator frequency modulator in a second mode; and

16 a decoder for detecting an emergency transmission and adapted to disable the  
17 dual-mode transmitter so that said signal is not provided to said antenna.

1 17. The transmitter of claim 16 further comprising an audio source comprising one of an  
2 audio memory for providing a prestored audio signal selected by said control unit, and a  
3 microphone, said audio source being selectively connected to said amplitude modulator  
4 and said frequency modulator.

1 18. The transmitter of claim 16, wherein said first signal generator comprises means for  
2 providing a plurality of signals in selected portions of said frequency band according to  
3 said control unit wherein said selected portions substantially comprise said frequency  
4 band.

1 19. The transmitter of claim 16, wherein said first signal generator comprises means for  
2 providing a plurality of signals in at least one selected portion of said frequency band  
3 according to said control unit, and said second signal generator provides said selectable  
4 frequency signal according to said control unit, wherein said mixer output signals com-  
5 prise selected portions which substantially comprise said frequency band.

1 20. The transmittal of claim 16 wherein said emergency transmission comprises an  
2 Emergency Alert System transmission.

1 21. The transmittal of claim 16 wherein said emergency transmission comprises a Radio  
2 Data Standard transmission.

1 22. The transmitter of claim 16 wherein said decoder is further adapted to activate a ra-  
2 dio in response to receipt of said emergency transmission.